

CLAIM AMENDMENTS

1. (Cancelled)

2. (Currently Amended) A method of manufacturing a semiconductor device comprising:

laminating an insulating oxide film and a first poly-silicon film sequentially, in order, on a silicon layer of a first conductivity type;

forming an opening by selectively etching said insulating oxide film and said first poly-silicon film and exposing a part of said silicon layer in the opening;

forming an impurity doped region of a second conductivity type by implanting a dopant impurity producing the second conductivity type into the part of said silicon layer exposed in the opening;

removing a natural oxidation film from said impurity doped region and said first poly-silicon film with hydrofluoric acid;

forming a thin uniform thickness oxide film on said impurity doped region in the opening and on said first poly-silicon film from which the natural oxidation film has been removed;

forming a second poly-silicon film covering said first poly-silicon film, including in the opening, and implanting the dopant impurity producing the second conductivity type in said second poly-silicon film;

activating the impurity producing the second conductivity type and implanted in said second poly-silicon film, and diffusing the dopant impurity producing the second conductivity type into said first poly-silicon film through said thin uniform thickness oxide film; and

~~removing a removed portion in~~ forming openings in said thin uniform thickness oxide film by annealing at a temperature from about 950°C to 1150°C for a time period of at least ten seconds and up to about three minutes, thereby forming ~~a~~ an electrical contact including the removed portion between said second poly-silicon film and said impurity doped region through said first poly-silicon film.

3. (Previously Presented) The method of manufacturing a semiconductor device according to claim 2, including forming said thin uniform thickness oxide film by treating with hydrogen peroxide.

In re Appln. of Masaaki IKEGAMI
Application No. 10/650,677

4. (Currently Amended) The method of manufacturing a semiconductor device according to claim 2, wherein said thin uniform thickness oxide film is about 0.5nm to 10nm thick.

5. (Cancelled)